

## CONTACT TRAINING DEVICE

### Background of the Invention

The present invention relates to an athletic training device and more particularly to a  
5 contact training device for batting practice.

To develop the unique hand-to-eye coordination necessary to become an effective batter,  
the batter must practice, and practice and practice some more. The traditional method of  
practicing involves a pitcher pitching a ball to a practicing batter. This method requires an extra  
person, namely the pitcher, to be present during batting practice. However, a pitcher is not  
10 always available at the batter's desired times; and often, the pitcher has only a limited repertoire  
of pitches which in turn inhibits the quality of the batting practice.

Over the years, pitching machines have developed and have eliminated the necessity of  
the human pitcher during batting practice. Additionally, these machines often incorporate a  
multitude of pitches resulting in a more effective practice session. However, for the average  
15 person, these machines are cost prohibitive. Thus, commercial enterprises such as athletic/health  
clubs or amusement parks but these machines, establish batting cages and charge their patrons  
for their use on an hourly or per pitch basis. For an avid batter, the cost can be prohibitive.

Beyond pitching machines, other batting practice devices have developed. For instance,  
U.S. Patents 4,516,771; 4,451,036 and 3,940,131 disclose various batting aids. Each of these  
20 inventions propose two extending arms that a batter swings between to develop a level swing.  
Each of these inventions offers only one target at which to aim; and if different target heights are  
desired, the apparatus itself must be adjusted. These devices not only make batting at different  
height levels quite inconvenient but also ignore the fact that not all hitters are level swinging

hitters. U.S. Patent 3,529,823 provides for multiple targets that are adjustable to varying heights, but each target comprises a hook-and-loop attached baseball that must be replaced after each swing which is yet another inconvenience for the batter.

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Summary of the Invention

The invention comprises a mounting base which is adaptable for a vertical mounting configuration, a plurality of peg support members which are preferably aligned along the mounting base at spaced intervals, and a plurality of resilient pegs that are removably attachable to the peg support members. The peg support members may be detachable from the mounting  
10 base by means of an interlocking attachment feature, and the peg support members maybe cylindrical in shape, with the resilient pegs being sized so as to snugly fit into the cylindrical peg support members. The resiliency allows the peg to return to its original position after being struck.

An object of the invention is to produce a contact training device for batting practice  
15 having a mounting base, a peg support that is removably attachable to the mounting base, and a peg that a batter may swing at that is removably attached to the peg support.

Another object of the present invention is to enable an individual batter to develop hand-to-eye coordination along with a smooth stride and swing through continued batting practice.

Still another object of the present invention is to enable an individual batter to practice  
20 alone without the assistance of another individual to hold a target or pitch a ball.

A feature of the present invention is the audible impact indication; similar to a bat and ball, the peg gives a loud pop when solid contact is made giving the batter immediate feedback as to the accuracy of the swing.

Another feature of the present invention is the deflection indication. When the peg is hit on the topside, it deflects at an angle similar to that of a ground ball. If the target peg is hit on the bottom side, it deflects at an angle equal to that of a fly ball; and if hit level, it deflects simulating a line drive, providing the batter immediate feedback as to the accuracy of the swing.

5       An advantage of the present invention is that it may be used indoors or outdoors and is easily attachable to, and removable from, existing structures such as a fence, backstop or pole.

Another advantage of the present invention is that it is inexpensive and can be reused season after season by replacing worn pegs with new pegs.

Yet another advantage of the present invention is that it provides multiple targets at  
10    which to swing at a multitude of heights.

#### Brief Description of the Drawings

FIG. 1 is a perspective view of the contact training device.

FIG. 2 is a side view and partial assembly view of the contact training device.

15       FIG. 3 is a perspective assembly view of the contact training device.

FIG. 4 is a side view of the contact training device depicting alternative embodiments.

#### Detailed Description

As shown in FIG. 1, the contact training device 10 generally comprises a mounting base  
20    14, a peg support 20 and a peg 30.

The mounting base 14 is of an elongate rectangular shape and incorporates a plurality of circular bores 16 that are spaced equidistantly along the length of the mounting base 14. Note that the bores 16 do not extend completely through the depth of the mounting base 14 but rather

stop at about a mid-point depth. Each of the bores 16 further comprises a plurality of notches 18 spaced equidistantly about the bore 16. The mounting base 14 should be quite rigid and is appropriately made from wood, metal or plastic. The mounting base 14 may be equipped with mounting brackets such that it maybe attached to a chain link fence or backstop. Alternatively,  
5 the mounting base 14 maybe screwed to a pole or other existing structure or may simply be attached to such an existing structure with rope or wire. The mounting base may also be attached to its own freestanding foundation.

The peg support 20 is of a tubular shape having an open end 22 to a cavity 24 within and a closed end 26. The closed end 26 further incorporates a plurality of tags 28 that extend  
10 outwardly from the peg support 20. The size, shape and spacing of the tabs 28 is commensurate with the size, shape and spacing of the notches 18. The peg support 20 is ideally made of a rigid molded plastic.

The peg 30 is of an elongate tubular shape having a first end 32 and a second end 34. The first end 32 remains free while the second end 34 is held within the peg support cavity 24.  
15 The peg 30 is appropriately made of a flexible yet resilient material such as a dense plastic foam. The foam can have an exterior skin for wear resistance.

The following dimensions for the above-described items have been found to work well. A mounting base 14 approximately forty inches in length, approximately six inches wide and approximately two inches deep. The mounting base 14 has five bores 16 approximately two and  
20 one-half inches in diameter with two square notches 18, approximately one inch by one inch, equidistantly spaced about the bore 16. The bore 16 is drilled to a depth of approximately one inch. The deepest portion of the bore 16 having a slot with stops, the slot drilled to a diameter of approximately four and one-half inches. The bores 16 are spaced approximately seven and one-

half inches on center and are located approximately five inches on center from each end of the mounting base 14. The peg support 20 has a closed end 26 with an outer diameter of approximately two and one-half inches and further incorporates square tabs 28 that are approximately one inch by one inch square. The peg support 20 is approximately six inches in length and the cavity 24 within the peg support 20 is approximately two inches in diameter. The peg 30 itself is preferably about twenty-four inches long and approximately two inches in diameter. A suitable range for the length is 18 inches to 36 inches. A suitable range for the diameter or thickness is 1-1/4 inches to 4 inches.

To assemble the contact training device 10, as illustrated in FIGs. 2 and 3, the second end 34 of peg 30 may be plied with an adhesive and inserted into the peg support's cavity 24 until the peg 30 makes contact with the closed end 26. The tabs 28 of the peg support 20 are then aligned with the notches 18 of the mounting base 14, the peg support 20 is inserted through the bore 16 and finally, the peg support 20 is twisted within the bore 16 to lock it in position. Note that the bore 16 is drilled out to incorporate a slot within which the tabs 28 are able to turn. The bore 16 further incorporates stops within the slot to catch the tabs 28 and prevent the peg support 20 from spinning around in the bore 16. With the peg support 20 in position, the mounting base 14 may be attached to a fence, pole or other structure as the user desires.

In operation, a batter steps up to the contact training device 10, selects a peg 30 at which to aim, and swings. If the batter makes good contact with the peg 30, a loud popping sound will result providing the batter with immediate feedback. Additionally, the batter will receive immediate feedback as to his swing plane by the direction of deflection of the peg 30. If the peg 30 is hit on the top side, it deflects at an angle similar to that of a ground ball; if the target peg 30 is hit on the bottom side, it deflects at an angle equal to that of a fly ball; and if hit level, the peg

30 deflects simulating a line drive. The contact training device, as depicted in FIGs. 1-4, has five  
pegs 30 although any number of pegs 30 may be used. A plurality of pegs 30 allows batters of  
varying heights to use the device 10 without having to make device 10 adjustments and also  
allows a batter to practice swinging at a number of targets which by their varying heights  
5 simulate various pitches. FIG. 4 depicts alternative embodiments of the contact training device  
10 having pegs with a bulbous end 36 which can be used to more closely simulate an actual  
baseball.

Note that due to the notch/tab interlocking feature of the peg support 20 and the mounting  
base 14, peg support 20 can be removed and replaced with a new, fresh peg support 20.

10 Other attachment means are of course anticipated and the peg itself can be formed so that  
stiffness varies along the length of the peg. Additional resiliency can be provided with resilient  
inner coaxial inserts or peg supports attached to the peg support. In other embodiments a landing  
surface may be provided for the end of the peg after it is hit such that it contacts the surface when  
flexed providing for more audible feedback. This can be simply a flat surface on which the  
15 device is mounted or a separate panel piece attached to the mounting base or simply an extension  
of the mounting base.

The present invention may be embodied in other specific forms without departing from  
the spirit or essential attributes thereof; and it is, therefore, desired that the present embodiment  
be considered in all respects as illustrative and not restrictive, reference being made to the  
20 appended claims rather than to the foregoing description to indicate the scope of the invention.